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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/751,061      | 01/02/2004  | Thomas P. Noel       | 1044-P-4            | 1236             |

7590 02/25/2005  
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EXAMINER

MCKINNON, TERRELL L

ART UNIT PAPER NUMBER

3743

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/751,061

**Applicant(s)**

NOEL, THOMAS P.

**Examiner**

Terrell L Mckinnon

**Art Unit**

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lachenbruch et al. (U.S. 6,755,852) in view of Serra et al. (U.S. 6,698,510).

Lachenbruch discloses a cooling body comprising:

- a pliable two-phase single wall heat transfer device for use in contacting and drawing heat away from a substance, the heat transfer device comprising (a) a plurality of matrix units each including (i) an outer wall circumscribing and enclosing an inner space;
- a plurality of spaced apart hollow fluid tight containers (36) connected to a portion of the wall, extending from the wall into the inner space;
- a first heat-exchange composition (31) in the inner space contacting each of the fluid tight containers and comprising a liquid which undergoes a change of state at a selected temperature of transformation (column 8; lines 58-column 9; le 17);

Art Unit: 3743

- a second heat-exchange composition (38) in each of the hollow containers comprising a liquid which undergoes a change of state at a selected temperature of transformation;
- a fastening system for interconnecting the matrix units along at least a pair of separate spaced apart lines of weakening to enable said heat transfer device to be mounted over the shoulders and around the neck of an individual;
- method steps for drawing heat comprising the steps of conducting heat away from a substance through a first sheet into a first fluid reservoir;
- moving heat by liquid convection in the reservoir;
- conducting through a second sheet into a second fluid reservoir heat transported by liquid convection in the first fluid reservoir;
- moving heat by liquid convection from the second fluid reservoir to the first fluid reservoir.

Lachenbruch's invention discloses all of the claimed limitations from above except for a second heat-exchange composition in each of the hollow containers comprising an liquid, which undergoes a change of state from the liquid phase to the solid phase at a selected temperature of transformation.

However, Serra teaches a heat-exchange composition (64) between heat conducting walls comprising a thermal substance, which undergoes a change of state from the liquid phase to the solid phase at a selected temperature of transformation.

Art Unit: 3743

Given the teachings of Serra, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify each of the conducting phase change containers of Lachenbruch with hollow containers comprising a liquid which undergoes a change of state from the liquid phase to the solid phase at a selected temperature of transformation.

Doing so would provide an alternate thermally efficient phase change substance to dissipate heat.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references cited on the USPTO 892 discloses related limitations of the applicant's claimed and disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L Mckinnon whose telephone number is 571-272-4797. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3743

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terrell L. McKinnon  
Primary Examiner  
Art Unit 3743  
February 22, 2005